CLAIMS

1. A method for classifying an audio signal, said method comprising:

Calculating a plurality of linear prediction coefficients (LPC) for a portion of the audio signal;

Inverse filtering the portion of the audio signal with the plurality of linear prediction coefficients (LPC), thereby resulting in a residual signal;

Measuring the residual energy of the residual signal; and

Comparing the residual energy to a threshold.

2. The method of claim 1, further comprising:

Classifying the portion of the audio signal as music, if the residual energy exceeds the threshold; and

Classifying the portion of the audio signal as speech, if the threshold exceeds the residual energy.

3. The method of claim 1, wherein the portion of the audio signal comprises a frame.

4. The method of claim 3, further comprising:

Decimating the frame, thereby causing the frame to comprise a predetermined number of samples.

5. The method of claim 1, further comprising:

Spectrally flattening the portion of the audio signal.

6. A method for classifying an audio signal, said method comprising:

Taking a discrete Fourier transformation of a portion of the audio signal for a plurality of frequencies;

Calculating a plurality of linear prediction coefficients (LPC) for the portion of the signal;

Measuring an inverse filter response for said plurality of frequencies with said plurality of linear prediction coefficients (LPC);

Measuring a mean squared error between the discrete Fourier transformation of the portion of the audio signal for the plurality of frequencies and the inverse filter response; and

Comparing the means squared error to a threshold.

7. The method of claim 6, further comprising:

Classifying the portion of the audio signal as music, if the mean squared error exceeds the threshold; and

Classifying the portion of the audio signal as speech, if the threshold exceeds the means squared error energy.

8. The method of claim 6, wherein the portion of the audio signal comprises a frame.

9. The method of claim 8, further comprising:

Decimating the frame, thereby causing the frame to comprise a predetermined number of samples.

10. The method of claim 6, further comprising:

Spectrally flattening the portion of the audio signal.

11. A system for classifying an audio signal, said system comprising:

A first circuit for calculating a plurality of linear prediction coefficients (LPC) for a portion of the audio signal;

An inverse filter for inverse filtering the portion of the audio signal with the plurality of linear prediction coefficients (LPC), thereby resulting in a residual signal;

A second circuit for measuring the residual energy of the residual signal; and

A third circuit for comparing the residual energy to a threshold.

12. The system of claim 11, further comprising:

Logic for classifying the portion of the audio signal as music, if the residual energy exceeds the threshold and classifying the portion of the audio signal as speech, if the threshold exceeds the residual energy.

13. The system of claim 11, wherein the portion of the audio signal comprises a frame.

14. The system of claim 13, further comprising:

A decimator for decimating the frame, thereby causing the frame to comprise a predetermined number of samples.

15. The system of claim 11, further comprising:

A pre-emphasis filter for spectrally flattening the portion of the audio signal.

16. A system for classifying an audio signal, said system comprising:

A first circuit for taking a discrete Fourier transformation of a portion of the audio signal for a plurality of frequencies;

A second circuit for calculating a plurality of linear prediction coefficients (LPC) for the portion of the signal;

An inverse filter for measuring an inverse filter response for said plurality of frequencies with said plurality of linear prediction coefficients (LPC);

A third circuit for measuring a mean squared error between the discrete Fourier transformation of the portion of the audio signal for the plurality of frequencies and the inverse filter response; and

A fourth circuit for comparing the means squared error to a threshold.

17. The system of claim 16, further comprising:

Logic for classifying the portion of the audio signal as music, if the mean squared error exceeds the threshold and classifying the portion of the audio signal as speech, if the threshold exceeds the means squared error energy.

18. The system of claim 16, wherein the portion of the audio signal comprises a frame.

19. The system of claim 18, further comprising:

A decimator for decimating the frame, thereby causing the frame to comprise a predetermined number of samples.

20. The system of claim 16, further comprising:

A pre-emphasis filter for spectrally flattening the portion of the audio signal.